

## THE DIVERSITY OF MATERIAL LIVING CONDITIONS (HOUSING INEQUALITY): LITHUANIAN CASE

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**Abstract.** *Economic inequality stops economic growth as well as reduces social and economic welfare. Basically, the standard means to measure economic inequality include such aspects as income inequality and consumption inequality, however, to find out the actual level of economic inequality the diversity of material living conditions and wealth distribution should be analyzed as well. The aspects of unequal distribution of material living conditions and housing inequality were not the main objects of sufficient scientific research. Due to this fact, the main aspects to be analyzed in this article are the diversity of material living conditions and housing inequality in Lithuania with the special focus on the extent and volatility of the problem.*

**Keywords:** *economic inequality, wealth inequality, housing inequality, diversity of material living conditions.*

### **JEL classification:**

**D63** - *Equity, Justice, Inequality, and Other Normative Criteria and Measurement*

**E21** - *Consumption, Saving, Wealth*

**P46** - *Consumer Economics, Health, Education and Training, Welfare, Income, Wealth, and Poverty*

**D31** - *Personal Income, Wealth, and Their Distributions*

## **Introduction**

Economic inequality stops economic growth as well as reduces social and economic welfare. Uneven income distribution, diversity of material living conditions and wealth inequality not only deny the principles of social equity, but also limit people's accessibility and opportunity to acquire education, proper upbringing, cultural background, a high-quality dwelling-place and a positive environment.

The problem of economic inequality is specific and multidimensional. Income and consumption inequality are usually the objects of all inequality related research. However, money and its consumption peculiarities only account for one part of this problem. Material living conditions (housing), accumulated wealth and its distribution are equally important indicators. Conventionally, economic inequality is measured using such methods as differentiation of income and consumption of the population, however,

in order to find out the real level of inequality, the diversity of material living conditions (housing inequality) and differentiation of wealth should be studied as well.

The economic growth of a country does not guarantee the increase of social welfare, as the redistribution of gross national income causes income, consumption and wealth inequality due to the different understanding of social equity and social-economic policy implemented in a particular country. Due to the increase of inequality, distrust, competition, capitalization of human relations as well as lack of confidence and empathy among people, the quality of social life correspondingly deteriorates. Inequality that results from the repartition of limited material and immaterial resources causes the emergence, increase and renewal of such phenomena as social disjunction and poverty. In terms of income, consumption, wealth inequality and poverty might determine the disjunction of people in relation to income, wealth and social life, thus preventing people from feeling content about their life and its quality.

### **Methodology: data for assessing diversity of material living conditions (housing inequality)**

In 2016, scientists of the *Mykolas Romeris University* (MRU) Life Quality Laboratory in cooperation with market and opinion research centre *Vilmorus* conducted a research and completed a survey of the Lithuanian population in order to analyze unequal distribution of material living conditions (housing inequality) as well as to determine the actual level of wealth differentiation, which was expressed by the value of a private dwelling-place. The mentioned research is considered as representative because 1 001 respondents were interviewed. The results reflect the opinions and distribution of the entire Lithuanian population by age, gender, housing place, education, purchasing power. The received research results were compared with previously known information as well as *Eurostat* data.

As a result, economic inequality was analyzed not only on the grounds of income, but also on the grounds of diversity of material living standards that are related to individuals' disposal of wealth and their living conditions. For the mentioned reason it was decided to choose own created method, i.e. wealth diversity was defined by the market value of a household.

The main purpose of this article is to identify and emphasize diversity of material living conditions (housing inequality) as well as wealth diversity as an inseparable part of economic inequality in Lithuania and, as a result, the poor quality of life and obstacles in the way of economic progress.

### **The role of material living conditions in contemporary society**

The society's quality of life is the main aspect that causes socio-economic growth. It has been influenced mostly by the change in the economic paradigm, as the universal monetary methods, based on the monetary aspects and fiscal policies, have been

replaced by the nonorthodox conceptions of economic development, which emphasize the importance of society's interests and good living conditions. The prioritizing of these aspects has led to the economic growth and society's satisfaction in such EU countries as Germany, France, Italy, Switzerland, Austria, Scandinavian countries, etc. In the meantime, other countries underestimate the importance of human resources and still live in a belief that the radical and liberal doctrine of Washington Consensus, which happens to be criticized more and more often by the representatives of economics science, will improve the life quality in society, increase competitive ability and ensure economic progress. Unfortunately, it might encourage a disappointment in political systems that exist in various countries as well as the disappointment in the polarization of society members, caused by the uneven distribution of income and resources, and the disappointment in high inequality rates and a respective rate of poverty. Thus, it might be stated that economic inequality has become one of the most relevant problems in world economy. The studies that have been concluded in the past ten years (J. Stiglitz, A. Sen, J.P. Fitoussi, R. Reich, The World Bank, etc.) revealed that a high level of inequality stops economic growth. R. Reich (2010) stated that the reasons of global crisis are not the increase of national debts or the people's inability to live within their means, the main reason is high economic inequality when the growth of GDP is based on the unjustified income increase of the rich (Rakauskienė, 2015).

The concept of economic inequality is rather broad and complex by nature. However, two different approaches may be distinguished. The first, or liberal, approach states that economic inequality is a result of a society's modernisation and economic development. Economic inequality includes the inequalities of wealth and income distribution and it is considered to be justifiable as a result of market economy. In this case, inequality is justified by the marginal productivity theory, which states that increasing income might be associated with increasing productivity and, accordingly, increasing input into the welfare of society. It is little wonder that the richest individuals are the main supporters of this theory (Stiglitz, 2015). The second approach does not justify economic inequality and considers it to be a concern of the economic system, especially if it develops into excessive inequality that stops economic development.

A certain degree of inequality might be justifiable if inequality encourages individuals to improve, compete, save and invest money in development (for example, better education or wage differences can lead to human capital accumulation or economic development, despite income inequality). However, the increasing level of inequality becomes a concern when it reduces a person's chances to acquire a better education or profession, when individuals are made to limit themselves to being submissive and self-secure, which ultimately leads to inadequate distribution of resources, corruption and nepotism. Excessive inequality does not necessarily mean a high level of inequality (high inequality is not necessarily excessive). Excessive inequality is a process which stops economic progress instead of encouraging it and leads to socially and economically-related negative consequences. It has a negative impact on economic development, welfare and various human resource processes.

Economic inequality is not only the result of social, demographic and economic processes, it is also a consequence of the economic policy that is being implemented.

Inequality is not inevitable – it is a cumulative result of unjust policies (Stiglitz, 2015). Wealth and income inequality is not only the result of economics – it is the result of politics (Piketty, 2014).

The concept of economic inequality is rather wide. Economic inequality includes the distribution of income, consumption, savings, material living conditions and wealth as well as unequal possibilities to acquire public good (education, health care, various services relating to culture, social services), depending on economic, social, demographic, psychological factors and capabilities on macro (state) and micro (social groups and individuals) levels.

Income differentiation is the key economic variable and one of the most important problems of economic inequality, which is also the main object of inequality related studies. However, cash flow only accounts for one part of this problem. Material living conditions, accumulated wealth and its distribution are far more telling aspects. In relation to the unequal distribution of income and wealth, poverty might determine the disjunction among people in terms of income, wealth and social life (Salverda, Nolan, Smeeding, 2013), thus preventing people from feeling content about their life and its quality.

Economic growth does not guarantee the improvement of social welfare, as the redistribution of gross national income determines the emergence of income, consumption and wealth inequality due to the different understanding of social equity and economic policy implemented in a country. The consequences of highly unequal income and resource distribution include the polarization of a population, high rate of differentiation and high level of poverty. The quality of social life rapidly deteriorates due to the increase of inequality, distrust, competition, capitalization of human relations, lack of confidence and empathy among people. These factors should become a focus of attention in every country. Moreover, all countries around the world should establish such political systems that could reduce economic inequality, income and wealth differentiation, and tension between people that could ensure equitable living conditions and a high quality of life for their members as well as sustainable economic growth.

In conclusion, economic inequality is one of the most relevant problems of globalization that has a negative impact on economic development and social-economic progress. Material living conditions are an integral part of economic inequality and they might be recognised as the essential needs. These needs and the ability to own them or have the disposition of them determine a person's material and moral security, self-confidence, self-esteem and corresponding quality of life. Thus, as a part of economic inequality, material living conditions in some cases might encourage, while in other cases – suppress a person's self-realization and creative potential, as well as increase or decrease a country's economic development and the quality of life of its society.

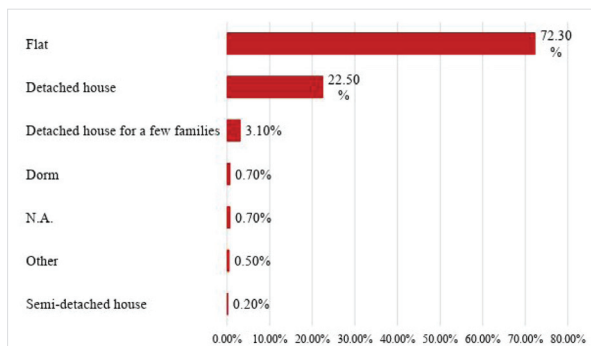
### **Research results: evaluation of inequality of material living conditions (housing inequality), expressed by the value of a private dwelling-place**

The ability to obtain wealth and have it in one's disposition ensures material and moral feeling of security, self-confidence, self-esteem and respectively influences the

quality of life. In a historical perspective, real estate is considered to be the most valuable type of wealth. Housing is a significant part of human well-being and guarantee of stability in a society, however, this subject still has not been appropriately thoroughly covered in a scientific literature, i.e., the distribution of wealth has not been measured, also, the influence of wealth inequality, with the special focus on the importance of dwelling, in relation to human life quality, has not been analyzed.

The distribution of population by the type of accommodation. According to the analysis of data (2016), most Lithuanian residents have been living in flats (72.30 %), whereas 22.50 % of people have been living in detached houses and only 5.2 % have been living in other types of accommodation. These recent Lithuanian tendencies differ from other EU countries, where, according to the analysis of Eurostat (2015), only 42 % of EU-28 citizens have been living in flats and 57.4 % have been living in detached houses.

According to the analysis (2016), blocks of flats are usually occupied by senior people – 65-70 years old (83.9 %), 70 years and older (76 %) or very young people that are 18-24 years old (79.3 %). It is very important to emphasize that more women than men live in flats (73 % and 71.6 %, respectively), whereas more men than women live in detached houses (23.3 % and 21.7 %, respectively). 96.6 % of Vilnius city dwellers and 92.7 % of other cities dwellers live in flats, meanwhile, only 1.1 % of Vilnius city dwellers and 4.3 % of other city dwellers live in detached houses. Most of the people who live in detached houses live in towns and villages.



**Fig. 1.** The distribution of population in Lithuania by the type of accommodation

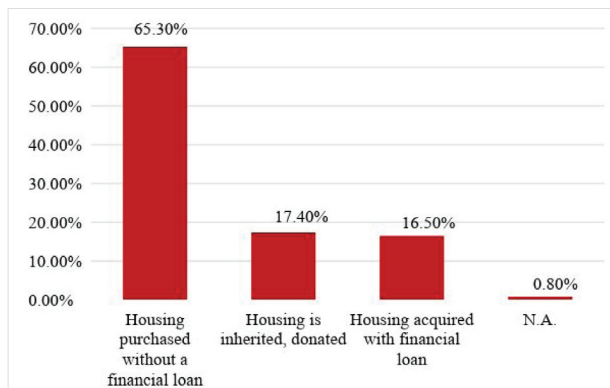
**Source:** MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

The distribution of accommodation by the type of property. It must be noted that most of the dwellers in Lithuania are the owners or co-owners of the dwelling that they are living in. This tendency is similar to the EU situation, where 69.50 % of dwellers own their dwelling places. However, based on the data given in the analysis by Eurostat (2015), more than a quarter (26.9%) of the 72.2 % of EU-28 dwellers live in places that were purchased with home loans and only 42.6 % of dwellers live in places that were purchased without a home loan or it has already been paid for.

According to the performed research, most of the dwellings (65.3 %) in Lithuania

have been acquired without financial aid (mortgage), 17.40 % of dwellers live in a place that was inherited or donated and only 16.5 % of dwellers purchased their dwellings with loans (see Fig. 2). The latter tendency might be explained by various economic criteria: insufficient household income to acquire a dwelling or insufficient accumulated funds to pay for the down payment. Psychological criteria such as the unwillingness to commit to creditors for a long period of time or the uncertainty about one's future are also very important.

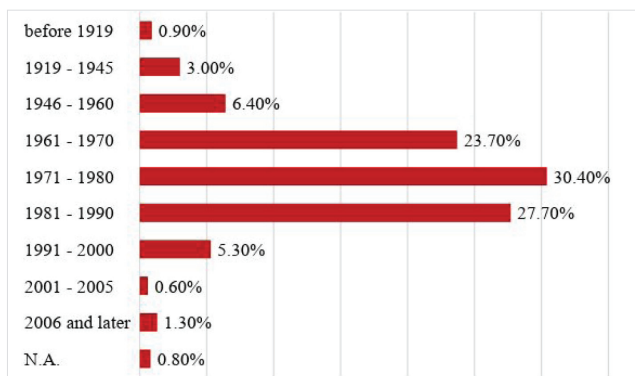
It is important to point out that women purchase dwellings without financial aid more often than men (68.5 % and 61.6 %, respectively) and vice versa men more often than women acquire a dwelling-place with financial aid (18.8 % and 14.5 %, respectively). An interesting fact – people aged 25-34 usually acquire a dwelling with financial aid (39.1 %), whereas people aged 18-24 and over 45 (56.3 % in total) usually purchase dwelling-places without housing loans.



**Fig. 2.** *The distribution of population in Lithuania by the type of dwelling*

**Source:** MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

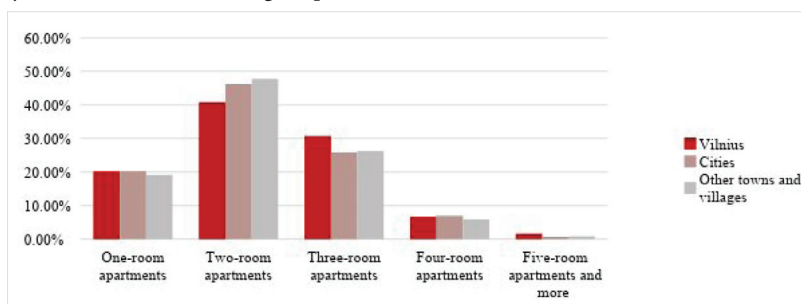
The distribution of population by the construction year of a dwelling. Based on the data analysis (2016), most Lithuanians (81.80 %) live in old housing constructed between 1961 and 1990 (see Fig. 3). Only 1.90 % of Lithuanians live in new housing that was constructed between 2001 and 2006 and later. Although new housing is highly attractive because of its energy-efficiency, economy and innovative solutions, it tends to remain too expensive.



**Fig. 3.** Housing and its construction period

**Source:** MRU, Vilmorius Ltd. Market and Opinion Research Centre, 2016

Based on the research (2016), most of the residents of big cities (47.92 %) have been living in apartments that were constructed in 1961-1970. In other cities, towns and villages, housing appeared to be newer (constructed in 1981-1990) and 42.11 % of those regions' residents have been living there. Vilnius is no exception and most of the residents of this city (77.33 %) have been living in apartments constructed between 1961 and 1990.



**Fig. 4.** The distribution of flats by their construction year and regions

**Source:** MRU, Vilmorius Ltd. Market and Opinion Research Centre, 2016

There are big discrepancies in relation to prices of new and old dwellings, as well as discrepancies between housing prices in Vilnius city and other regions (see Fig. 5).



**Fig. 5.** The average sale price of a dwelling, 2016

*\*The data given in the figure is based on research of the 2nd quarter of 2016. The average price of new housing in urban areas due to its limited offer is provided in the data of the 3rd quarter of 2015.*

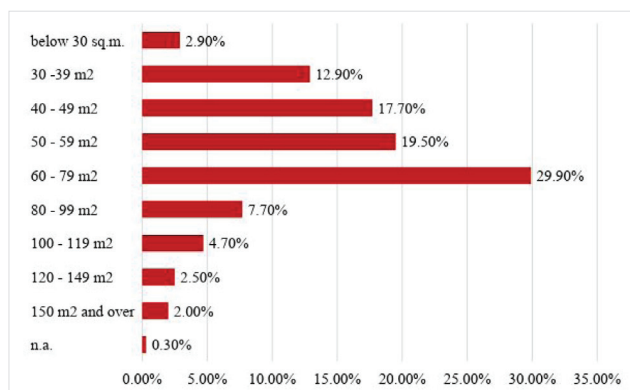
**Source:** The State Enterprise Centre of Registers, BNS Plus Construction and Real Estate, 2016

For example, the difference between newer and older housing prices in Vilnius is more than 20 %, while in other big cities the difference between prices is more than 37 %, in counties – almost 87 %, and 113 % in other towns and villages. Moreover, the supply of high quality new housing in various regions is limited, as investors do not dare to risk investing in such constructions due to the existing low purchasing power, high unemployment, emigration rates, and passive regional politics on behalf of the state, especially given the fact that the construction expenses do not differ and are more or less the same in the capital cities, other cities or other regions.

In consideration of the above-mentioned tendencies, the following conclusion can be made: most Lithuanian people face the lack of high-quality housing or cannot afford it, and they also face operating difficulties due to the low income of a household; the policy of modernization of the housing market implemented by the state has not brought about the desired effect.

The distribution of population by housing size. The size of housing and the accessibility of housing space are key elements in the process of evaluating the quality of housing. The problem that Lithuanians are facing at the moment is the insufficient size of houses and apartments. According to the research (2016), almost half of Lithuanians (49.40 %) in 2016 have been living in houses or apartments that were over 50 m<sup>2</sup> and under 79 m<sup>2</sup>. However, more than one third of Lithuanians (30.60 %) live in apartments that are over 30 m<sup>2</sup> and under 49 m<sup>2</sup>. Almost 3 % of Lithuanians live in apartments under 30 m<sup>2</sup>. Less than 17 % of Lithuanians live in apartments over 80 m<sup>2</sup>.





**Fig. 6.** The distribution of population by housing size

**Source:** MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

A lack of high-quality housing, insufficient dwelling-space, exploitation and environmental issues, and insufficient income to acquire housing to meet a person's needs are among the main problems faced by Lithuanians. If this basic essential demand for satisfactory housing and a good living environment is not met, a good quality of life and other needs are not ensured. Material living conditions can be attributed to the satisfaction of essential needs such as the possession of them and the ability to have them at one's disposition, which influences an individual's material and moral safety, self-confidence, self-esteem and quality of life. On the one hand, the material living conditions as a part of social and economic inequality might encourage, or on the other hand – suppress an individual's self-realization and creative potential as well as encourage or suppress the economic development of a country and the quality of life of its society.

Diversity of material living conditions. The diversity of material living conditions as well as inequality of wealth, expressed by the value of private dwelling-place, is evaluated as follows. Only the types of accommodation that have been purchased without mortgage financing, inherited or given as a gift (i.e., the types of accommodation that have not been pledged or limited in any other way and belong to a single household by statutory rights of ownership) will be included into the researched sample in the process of evaluating the inequality of wealth, expressed by the value of private accommodation.

**Table 1.** Differentiation of accommodations based on the way they have been purchased

Total of housing owners / co-owners (N = 723):	N	%
Housing purchased without a financial loan	472	65.3
Housing purchased with a financial loan	119	16.5
Housing inherited, donated	126	17.4
Do not know / did not answer	6	0.8
<b>Total:</b>	<b>723</b>	<b>100,0</b>

**Source:** MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

**Table 2.** Distribution of wealth, which is expressed by the value of accommodation in decile groups

Decile	I	II	III	IV	V	VI	VII	VIII	IX	X
Average housing value in decile (EUR)	13592	18468	21793	26567	27260	33077	38143	50026	64715	97890
Inter-decile differences (times)		1.35	1.18	1.22	1.02	1.21	1.15	1.31	1.29	1.51

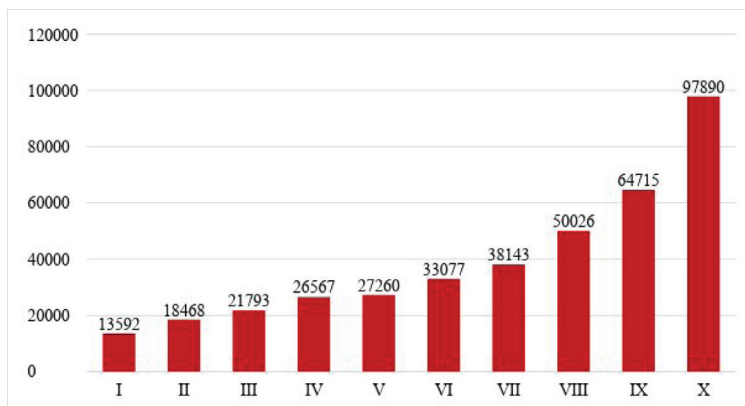
*Source:* MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

Based on the data on private accommodations provided by the respondents, it is evident that the minimum statistical value of a single dwelling-place (taking into consideration that the value of a dwelling-place is determined by the market value) ranges between EUR 9 990 in the first decile and EUR 169 200 in the tenth decile, thus differs 16.9 times. In comparison, average accommodation prices in the first and tenth deciles differ about 7.2 times, in the second and ninth deciles – 3.5 times, in the ninth and tenth deciles – 1.5 times. The differences between adjacent deciles are not that obvious, however, they become prominent when approaching the tenth decile.

**Table 3.** Decile ratios of wealth, which is expressed by the value of a specific accommodation

X / I	IX / II	X / V	X / IX
7.2	3.5	3.6	1.5

*Source:* MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016



**Fig. 10.** Average value (EUR) of accommodation in different deciles

*Source:* MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

Thus, it might be stated that the differentiation of wealth that is realised by the value of accommodation is relatively high. i.e., the difference among the first and tenth decile groups is more than 7 times. However, it is worth noting that this evaluation is not entirely accurate considering the following limitations:

- the evaluated assets include only the type of accommodation that is owned by a household, i.e., the households that do not own any property have not been included in the sample of the research;
- only the value of the main (first) dwelling-place has been evaluated;
- the calculated prices of the dwellings belonging to the interviewed respondents are only tentative, based on the accuracy of such parameters as the construction year of a building, the type of the building, its location etc., as the market value and prices are not as detailed as the attributes included in the survey.

Thus, the decile (X/I) ratio (7.2 times) reveals only the approximate difference between the individuals who own housing in provinces and metropolitan areas. However, more significant wealth-related disparities among Lithuanian residents would be revealed if the analysed sample included the respondents who do not own any kind of accommodation, also the ones who own two or three different dwelling-places, who have at their disposal other types of wealth (private land, shares, durable goods etc.).

The inequality of wealth. The Gini coefficient of wealth that is expressed by the value of housing is estimated as follows. The Gini coefficient (G) is a relation between the figure's area, which is confined by the continuous (normal) distribution curve and the Lorenz curve, and the triangular area, which is below the normal distribution curve:

$$G = 1 - 2 \sum_{i=1}^k d_{xi} d_{yi}^K + \sum_{i=1}^k d_{xi} d_{yi} \quad (1)$$

where –  $d_{xi}$  – the proportion of the  $i^{\text{th}}$  group of residents who were interviewed during this survey (i.e., in the given example – the number of residents who own 1-, 2-, etc. bedroom apartments);

$d_{yi}$  – the proportion of the total volume of a certain parameter (apartment value) of the  $i^{\text{th}}$  group relating to the given sample;

$d_{yi}^K$  – the cumulative part of the attribute (apartment value) of the  $i^{\text{th}}$  group relating to the given sample.

The Gini coefficient of the distribution of wealth, expressed in terms of wealth value, is calculated as follows (see formula No. 1):

$$G = 1 - 2 * 0.393212 + 0.100141 = 0.313717. \quad (2)$$

The estimation of the Gini coefficient of the distribution of wealth, expressed in terms of wealth value in metropolitan areas, is analogous:

$$G = 1 - 2 * 0.368103 + 0.099919 = 0.363714. \quad (3)$$

The Gini coefficient of the distribution of wealth, expressed in terms of wealth value in various cities:

$$G = 1 - 2 \cdot 0.379817 + 0.100149 = 0.340515. \quad (4)$$

The Gini coefficient of the distribution of wealth, expressed in terms of wealth value in rural areas:

$$G = 1 - 2 \cdot 0.388152 + 0.099469 = 0.313717. \quad (5)$$

**Table 4.** Data collected in order to estimate the distribution of wealth (expressed by the value of housing), or the Gini coefficient in Lithuania

Decile	Housing		Housing value			Product	
	Number	Share $d_{xi}$	Total housing value (Eur)	Share $d_{yi}$	Cumulative share $d_{yi}^K$	$d_{xi} d_{yi}$	$d_{xi} d_{yi}^K$
I	60	0,101351	815521	0,034562	0,034562	0,003503	0,003503
II	59	0,099662	1089641	0,046179	0,080741	0,004602	0,008047
III	59	0,099662	1285759	0,054491	0,135231	0,005431	0,013477
IV	59	0,099662	1951546	0,082707	0,217938	0,008243	0,02172
V	59	0,099662	1608364	0,068163	0,286101	0,006793	0,028513
VI	59	0,099662	1951546	0,082707	0,368807	0,008243	0,036756
VII	59	0,099662	2250460	0,095375	0,464182	0,009505	0,046261
VIII	59	0,099662	2951561	0,125087	0,589269	0,012466	0,058728
IX	59	0,099662	3818192	0,161815	0,751084	0,016127	0,074855
X	60	0,101351	5873413	0,248916	1	0,025228	0,101351
Total:	592	1	23596003	1		0,100141	0,393212

**Source:** MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

**Table 5.** Gini coefficient of wealth expressed in terms of wealth value

Common	Big cities	Cities	Towns, villages
0.31	0.36	0.34	0.31

**Source:** MRU, Vilmorus Ltd. Market and Opinion Research Centre, 2016

Based on the calculations of the Gini coefficient of wealth inequality in rural areas, cities and metropolitan areas in Lithuania as well as in Lithuania in general and bearing in mind that the survey included only the respondents that own their dwelling-places, without taking into account the respondents that do not own accommodation or another type of real estate, land, financial assets, durable goods, works of art or intangible assets,

it is evident that wealth inequality among different households has reached a rather high level, as the Gini coefficient exceeds the limit of 0.3, i.e., the theoretical margin of this particular coefficient. Thus, having considered the limits of this method of evaluating wealth inequality, it might be stated that the real level of wealth inequality in Lithuania already exceeds the existing levels of income and consumption inequality.

## **Conclusions**

1. It may be stated that social and economic inequality is one of the main problems caused by globalization, and negatively affects the development of economics as well as social and economic progress. Material living conditions are an integral part of social and economic inequality. Material living conditions can be attributed to essential needs as possession of them and the ability to have them at one's disposal influences an individual's material and moral safety, self-confidence, self-esteem and quality of life. On the one hand, the material living conditions as a part of social and economic inequality might encourage, while on the other hand – suppress an individual's self-realization and creative potential, as well as encourage or suppress the economic development of a country and the quality of life of its society.
2. A dwelling-place is an essential component that determines an individual's welfare. The key problems that Lithuanians have to face these days are the lack of high-quality housing, insufficient dwelling-space and the differentiation of housing by regions. This means that the main need of a person for a high-quality dwelling-place is not met, thus, other needs are also not fulfilled and the quality of life deteriorates as a result of this. The importance of having a dwelling-place and the ability to understand the changing tendencies of housing needs are essential in order to shape a country's politics, reduce social and economic inequality, guarantee a satisfactory quality of life to every member of a society, ensure a strong foundation for future generations and to maintain the welfare of every society.
3. The value of the assets owned by the representatives of these socio-economic groups differs by 16.9 times. Based on the data provided by the respondents, it is clear that the minimum statistic value of a single housing ranges between EUR 9 990 in decile I and up to EUR 169 200 in decile X. However, comparing the average prices of dwelling-places in deciles I and X, the difference amounts to 7.2 times.
4. Based on the calculations of the Gini coefficient of wealth inequality in rural areas, cities and metropolitan areas in Lithuania as well as in Lithuania in general, also bearing in mind that the survey included only the respondents that have their own dwelling-place, without taking into account the respondents that do not own accommodation or another type of real estate, land, financial assets, durable goods, works of art or intangible assets, it is evident that wealth inequality between households is rather high, as the Gini coefficient exceeds the limit of 0.3, i.e., the theoretical margin of this particular coefficient. Thus, having considered the limits of this method of evaluating wealth inequality, it might be stated that the real level of wealth inequality in Lithuania already exceeds the existing levels of income and consumption inequality.

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